

When a greater skill set is needed

Arie Nygh, principal of Seaways Consultants and senior training master for PB Towing, discusses the vital importance of training and competency checking for masters of omni directional tugboats*.

The old adage comes to mind: “the more I learn, the more I realise I don’t know”. After 18 years of driving omni directional tugboats, including some 13 years as a training master, I am still learning about my profession. This suggests I am either a very slow learner or there is a considerable amount of knowledge to be gained.

Taking a holistic overview, training in the towing sector of the maritime industry in my view is still substandard, though organisations and individuals are beginning to acknowledge the high degree of skill required to competently, confidently and safely operate an omni directional tug to its full capability.

This realisation is important as the forerunner to having properly structured and resourced professional training and competency checking regimes in place. For a long time, most managers, not having driven omni directional tugs themselves, though responsible for making the decisions regarding training, had little comprehension as to how specialised the skill set is.

I often use the analogy that to compare operating an omni directional tug to a conventionally propelled vessel is like comparing flying a 747 jet to flying a helicopter: the only similarities are that they both fly in air. The only similarities between omni directional tugs and conventional vessels are that they both float on water.

In an industry where any mistakes result almost instantly in injury or damage, to ensure safe and effective towage operations, tug operating skills must be developed so they are appropriate and instinctive when under considerable pressure. Traditionally, this skill development has taken place in what is at best an adhoc manner over considerable time frames, resulting in varying degrees of success.

As with all industries, times and standards are changing. In ours, commercial pressures are demanding safer operations but shorter training periods at a time when the development of much smaller, lighter, manoeuvrable and powerful tugs is highlighting and accentuating flaws in skills due to poor or inadequate training. A modern omni directional tug is best described as similar to a high performance racing car that requires significantly higher skill sets to drive than what is the norm. Every time a tugmaster moves the control levers even minute amounts, the tug reacts instantly.

Given the varying and constantly changing forces, influences and requirements while operating in close proximity to a ship, the



Trainee driver Brendan Rule, left, and engineer Evan Milne, on the PB Towing tug Cook in Brisbane, Australia.

tugmaster is assessing and making alterations to control settings constantly. To do this correctly and effectively in a timely manner, say when it is 2am and he is tired, there is a howling gale and the pilot is demanding responses, requires competencies of an extremely high standard. Remember, when a tugmaster gets it wrong, potentially people get hurt and assets get damaged.

The first step to any problem resolution is firstly recognising there is an issue to address; reassuringly, things are improving, as managers and authorities are now realising the need for proper training.

This is further supported by ‘Resolution 8 of STCW95 – promotion of technical knowledge, skills and professionalism of seafarers’, which states: “A seafarer must not only be qualified to fulfil an operational role on board a vessel but also competent to perform the assigned role”.

Training programmes

Professional companies have realised that the cost of training is an investment. There is no doubt it is vastly more cost effective than repairing people, vessels, third party assets and the company’s reputation. Furthermore, in the event of a serious incident, companies are now being called upon in court to prove their tugmasters are competent.

The Seaways Tugmaster Training Program is an example of a professional training programme. It has six differing modules that clients can elect to take, and all have unique skill sets to suit differing towage operations.

For example, training for a harbour towage operation involves four streams of instruction taking place at the same time:

- ASD/ATD Tug Basic Handling;
- Undertaking Harbour Towage Operations;

- Learning the ISM/ISO Safety Management System (SMS).
- Learning the management of the tug, including PMS, booking system, ordering system etc.

Competency checking

At the completion of training and every 12 months thereafter, the Seaways programme has a formal, two-part competency assessment:

1. Operational competency

- Driving the tug through the non subjective Competency Circuit;
- Driving on the secondary steering system;
- Driving on one engine;
- Emergency responses;
- Onboard equipment and systems operation;
- If ‘Undertaking Harbour Towage’ is a component, observing a towage operation.

2. Procedural competency

- Recording that the company’s SMS has been read;
- Questions from the SMS to ensure there is thorough knowledge;
- Questions from the Security Manual.

The competency checks ensure standards and skills are maintained, especially those that are rarely used eg driving on one engine. Furthermore, in the event of an incident, both the company and the tugmaster can clearly demonstrate they have been trained and assessed to operate competently and professionally to recognised industry standards.

A number of marine authorities, organisations and client companies are now starting to require of towage companies proof of professional operating standards and competency of operational personnel. The very nature of a professionally developed and administrated tugmaster training and

* For the purposes of this article, ‘omni directional tugs’ means tugs with omni directional propulsion units, having azimuth thrusters, ie Azimuth Stern Drive (ASD), Azimuth Tractor Drive (ATD) or Voith propulsion units.

competency checking programme ensures this can be readily established.

With regard to what the Seaways programme achieves, it should be noted that:

1. No one, no matter their previous experience, has ever come into the programme and been able to achieve the base competency check standards without additional training.

2. No one, once having been given training, has ever failed to achieve the base competency check standards.

For 'Basic Tug Handling' the training period is about one week of intensive tug driving training. For 'Undertaking Harbour Towing Operations', which includes the 'Basic Tug Handling', the training period is around four weeks, with six weeks considered the limit. Both time frames are well short of industry norms, whilst achieving higher standards.

Critical to the success of any training programme is that it must be about educating and developing individuals for the common good. Specifically, competency checking must never be used in a negative or penalising manner or it will become counterproductive via loss of support, credibility and effectiveness.

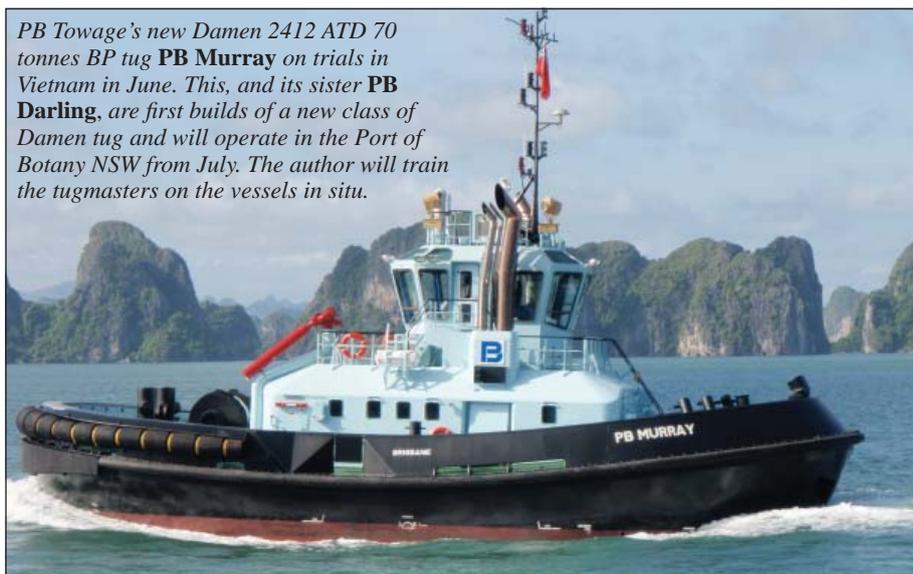
Simulators

Over the past couple of years, I have been researching simulators for the training of tugmasters. While I firmly believe the better systems have a place in the overall training and development of tugmasters, I am not aware of any that can achieve an outcome whereby a simulator-trained tugmaster can board an omni directional tug and competently operate the tug or undertake harbour towing operations without significant additional onboard training.

An issue with some simulators is the qualification of instructors. Too often, tug masters are instructed on a simulator by people who never have handled a tug themselves.

As such, I counsel caution if simulators are to be viewed as the end-all training solution. They do have a role to play and certainly the technology and modelling is improving all the time. But

PB Towage's new Damen 2412 ATD 70 tonnes BP tug PB Murray on trials in Vietnam in June. This, and its sister PB Darling, are first builds of a new class of Damen tug and will operate in the Port of Botany NSW from July. The author will train the tugmasters on the vessels in situ.



there is still an absolute foremost requirement for proper onboard, operational, hands-on tugmaster training by qualified instructors with extensive experience and credibility in handling the specific tugs they are training for.

Summary

I was at a meeting with a major tug design and building company earlier this year with my good friend and mentor Capt Henk Hensen. Henk is, in my view, to be credited as the father of professional standards and knowledge within the towing sector. Certainly for me he has been tireless in his support and counsel. At this meeting we made the point that omni directional tugs have been developed beyond the skill set of most tugmasters. What does this mean in a practical sense?

- Companies are investing significant additional money to have omni directional tugs that can operate at very high standards;
- Clients are paying significant additional hire and charter fees to have the benefits of this type of tug;
- Due to the lack of skill, directly related to

inferior training, the tugs in most cases at best are operated to approximately 60 to 80 per cent of their design capacity to perform.

- Consequently the capital investment is not being fully utilised;
- Accidents and the associated costs are on the increase as tugs become far more responsive and powerful, and much less forgiving of inferior skills and techniques;
- Shorter towlines are used as it is easier to respond to pilots' orders, but this leads to less effective bollard pull being applied: a tug can readily lose more than 50 per cent of its bollard pull due to the tug's propeller wash hitting the ship's hull. Consequently, tugs are being needlessly made more powerful, involving more capital and operational costs.
- During towing operations, tugs are resting on ships' sides rather than standing off, resulting in unwanted effects on the ship, which pilots dislike immensely, along with additional fender wear and damage to the ship's paintwork.

Proper professional training and ongoing development via annual competency checking must be viewed as not only a cost-effective investment but an absolute necessity to ensure safe and effective operations. The cost of not ensuring this is huge in terms of:

- Overall safety;
- Well being of marine personnel;
- Risk to the environment;
- Risk to third party assets such as wharf facilities and channel access etc;
- Capital and operational cost;
- The company's reputation;
- The company itself in the case of a serious incident resulting in court litigation.

Finally, while the focus of this article has been on tug masters' training, to ensure safe and effective operations, it is important that pilots also be trained in the capabilities and limitations of tugs.

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Arie Nygh, Centre, presents a training certificate to John Rowe with marine manager Capt Charles Smith on board CentrePort Wellington (New Zealand)'s new Damen 2411 tug Tiaki in April.